

Aquifer Protection Permit 100797
 Place ID #408, LTF #58698
SIGNIFICANT AMENDMENT
 Material Test Area Lagoons

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an amendment to the Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology); to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer; or to prevent pollutants from reaching the aquifer.

I. FACILITY INFORMATION

Name and Location

Name of Permittee:	U.S. Army Garrison, Yuma
Mailing Address:	IMYM-PWE 301 C Street Yuma, Arizona 85365-9498
Facility Name and Location:	Material Test Area Lagoons 301 C Street Yuma, Arizona 85365-9498

Regulatory Status

Listed in the table below are various wastewater licenses issued by ADEQ to the permittee pertaining to the facility:

Type of license	License identifier	Effective date
Notice of Disposal (NOD)	n/a	9/27/1984
Aquifer Protection Permit	P-100797	3/27/2003
Aquifer Protection Permit "Significant Amendment" (requested for "Reserved" for fluoride and arsenic in the groundwater monitoring of the POC well)	P-100797	6/30/2006

Aquifer Protection Permit “Clean Closure” (Closure of three sludge drying beds)	P-100797	7/14/2011
Aquifer Protection Permit “ Significant Amendment” (expansion from 64,500 gpd to 110,000 gpd)	P-100797	3/21/2012

The application for this current Significant Amendment was received by ADEQ on September 3, 2013.

Facility Description

The Material Testing Area (MTA) Lagoons is a secondary wastewater treatment system that consists of five lined evaporation ponds with stabilization cells. The facility is authorized to treat an annual average of 0.110 million gallons per day (mgd) of combined domestic sewage, cooling tower blow down and vehicle wash racks wastewater. The facility receives water from vehicle wash racks after passing thru oil/water separators. Each wash rack has its own oil/water separator. The facility has discontinued the use of treating photo processing wastewater through the lagoon system. The wastewater shall be disposed by evaporation in the five lined evaporation ponds. Sludge shall be removed from the ponds and disposed at a state approved landfill in accordance with state and federal waste disposal rules and regulations.

The depth to groundwater is approximately 165 feet below the ground surface. The groundwater flow direction is west-southwest based on ADWR maps. The nearby surface water features are the Colorado River, located approximately 5.25 miles west of the facility and the Gila River, located approximately five miles south of the facility. All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for any sewage sludge disposal in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. Ch. 9, Art. 10.

Amendment Description

This permit amendment was requested by the permittee to establish alert levels (ALs) and aquifer quality limits (AQLs) at POC Well based on eight groundwater sampling events conducted from April 4, 2012 through June 10, 2013. In addition, the sampling frequency of metals in routine groundwater monitoring has been changed from quarterly to annually, and VOCs from semi-annually to annually. Table IIA (Ambient Groundwater Monitoring) was deleted and Table IIB of the original permit was renamed as Table II (Routine Groundwater Monitoring) in this permit. Compliance schedule items pertaining to ambient groundwater monitoring and submittal of a groundwater monitoring report and an APP amendment application have been removed, as they have now been submitted.

Listed below are the changes to the permit as a result of this amendment:

1. Section 2.1, Facility/Site Description: Added a description of the purpose of this amendment.
2. Section 2.2.4, Operational Requirements, Section 2.5.6, Facility / Operational Monitoring, Section 2.6.2.1, Exceeding of Performance Levels Set for Operational Conditions: Updated this section to current permit format, by correcting the table name from Table III to Table IIIA and IIIB.
3. Section 2.3, Discharge Limitations, Section 2.5.2, Discharge Monitoring, Section 2.6.2.2, Exceeding of Alert Levels (ALs) Set for Discharge Monitoring, Section 2.6.2.2.1 Exceeding Permit Flow Limit and Section 2.6.3, Discharge Limit Violation:
 - Corrected the table name from Table I to Table IA.
4. Section 2.7.2, Operation Inspection / Log Book Recordkeeping: Updated this section to the current permit format.
5. Section 3.0, Compliance Schedule:
 - Removed all items pertaining to ambient groundwater monitoring and submittal of a groundwater monitoring report and an APP amendment application, as this requirement was satisfied by the facility.
6. Section 4.2, Table II: Routine Groundwater Monitoring:
 - Removed Ambient Groundwater Monitoring Table IIA, as this has been completed. Set ALs and AQLs for all parameters listed.
7. Section 4.0, Tables of Monitoring Requirements: Under sub-section 4.2, Compliance or Operational Monitoring, the tables have been renumbered and renamed to reflect the following:
 - Previous Table I, Discharge Monitoring is now Table IA, Routine Discharge Monitoring.
 - Added Table IB, Reclaimed Water Quality Monitoring, which is not applicable.
8. Section 4.0, Tables of Monitoring Requirements: Under sub-section 4.2, Table III, Facility Inspection: Updated this section to the current permit format.

Other changes include updating the permit language to conform to the most current permit format.

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY

The facility was designed and constructed, and shall be operated and maintained to meet the treatment performance criteria (BADCT) which was in effect at the time the original permit was issued. The facility shall be designed, constructed, operated and maintained to meet the performance levels for new facilities as specified in A.A.C. R18-9-B204(B)(7).

III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

Monitoring and Reporting Requirements

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected from the inlet diversion box. The permittee shall monitor the effluent daily for flow, semi-annually for total nitrogen, metals, and VOCs (See Section 4.2, Table IA in the permit).

To ensure that AWQS will be met at the POC in the aquifer, representative samples of the groundwater will be collected from POC Well – OW12, (ADWR Well No: 55-550297), and will be sampled monthly for total coliform, total nitrogen, nitrate-nitrite as N, and total Kjeldahl nitrogen (TKN), annually for metals, volatile and semi-volatile organic compounds, and Indicator Parameters / Major Cations and Anions. (See Section 4.2, Table II in the permit).

Facility inspection and operational monitoring shall be performed on a routine basis (See Section 4.2, Tables IIIA and IIIB in the permit).

Point of Compliance

The POC for this facility is designated at the following location:

POC#	POC Locations	Latitude	Longitude
1	~ 50 feet Northwest of Pond 1 also named OW-12, (ADWR Well No: 55-550297)	32° 49' 52" N	114° 22' 28" W

Groundwater monitoring is required at the point of compliance well.

The POC well construction details are listed in the table below:

POC #	Screened or slotted interval (feet bgs)	Filter pack interval (feet bgs)	Total depth Casing / Borehole (feet bgs)	Casing diameter & type (inches)	ADWR Registration Number (55 #)
1	139 - 159	137 - 159	159 / 159	2" PVC Top of casing is 3 feet above ground surface (3' stick up)	55-550297

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

IV. HYDROGEOLOGIC SETTING

Fluoride and arsenic concentrations have been reported above AWQS in the area and documented by Arizona Department of Water Resources (ADWR) field measurements. The groundwater flow direction is west-southwest based on ADWR maps. The nearby surface water features are the Colorado River, located approximately 5.25 miles west of the facility, and the Gila River, located approximately five miles south of the facility.

The depth to groundwater has reduced; this may be due to the ponds being lined, whereas in the past the ponds were not lined. Groundwater was encountered at 77 feet bgs during drilling and installation of the old POC well in May 2010. Groundwater was encountered at 144 feet bgs in June 1995 during drilling and installation of the new POC well. The depth to groundwater was measured at 143.24 feet bgs in the new POC well on August 16, 2011.

The site is characterized by wide, gently sloping plains formed by basin-fill deposits surrounded by mountain ranges composed mainly of intrusives and volcanics. The major aquifers are located in the recent stream alluvium and basin fill. Unnamed washes convey storm water southward towards the ephemeral Castle Dome Wash, which is a tributary to the perennially flowing Gila River, located approximately five miles south of the site.

Depth to groundwater was measured at 77 feet bgs on May 3, 2010 at POC 1 (55-911675). On June 29, 2011 this well was reported as dry. This well has a total depth of 100 feet.

V. SURFACE WATER CONSIDERATIONS

The facility is not located within a 100-year floodplain.

VI. COMPLIANCE SCHEDULE

Not applicable.

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

U.S. Army Garrison, Yuma, has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

The permit requires that appropriate documents be sealed by an Arizona-registered Geologist or Professional Engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

U.S. Army Garrison, Yuma has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203(B)(1) and (2). The estimated dollar amount demonstrated for financial capability is \$1,229,338.00. The permittee is expected to maintain financial capability throughout the life of the facility.

Zoning Requirements

The Material Test Area Lagoons system has been properly zoned for the permitted use and the permittee has complied with applicable zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(B)(3).

VIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

The public notice was published in the XXXXXXXXXXXXXXXXXXXX, under public notice No. XXXXXXXXXXXX.

Public Comment Period (A.A.C. R18-9-109(A))

The Department shall accept written comments from the public before a significant permit amendment is made. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

IX. ADDITIONAL INFORMATION

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division - APP and Reuse Unit
Attn: Swathi Kasanneni
1110 W. Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-4577